

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050680

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
 - ☐ international search (Rule 12.3 and 23.1(b))
 - ☐ publication of the international application (Rule 12.4)
 - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
 - ☐ the international application as originally filed/furnished
 - ☒ the description:
 - pages 1-19 _____ as originally filed/furnished
 - pages* _____ received by this Authority on _____
 - pages* _____ received by this Authority on _____
 - ☒ the claims:
 - nos. _____ as originally filed/furnished
 - nos.* _____ as amended (together with any statement) under Article 19
 - nos.* 1-29 received by this Authority on 25.04.2005 with letter of 25.04.2005
 - nos.* _____ received by this Authority on _____
 - ☒ the drawings:
 - sheets 1/3-3/3 _____ as originally filed/furnished
 - sheets* _____ received by this Authority on _____
 - sheets* _____ received by this Authority on _____
 - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages _____
 - ☐ the claims, nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages _____
 - ☐ the claims, nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050680

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	1-29	YES
	Claims		NO
Inventive step (IS)	Claims	1-29	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-29	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)**1. Technical field:**

Method (claim 1) of preemphasizing an optical wavelength multiplex signal.

2. Prior art:

D1 (US-A-2002/0015199) is considered to be the prior art closest to the subject matter of claim 1. D1 discloses a method of preemphasizing an optical wavelength multiplex signal according to the preamble of claim 1.

3. Problem:

The problem to be solved by the invention is that of improving the relative signal degradation of multiplex channels of different categories.

4. Solution:

The aforementioned problem is solved in that, in a network element, the average power and the channel-specific power of the signals of a group are set at the signal inputs so that predetermined signal-to-noise intervals can be provided at the termination points of at least one group of

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

signals, and, for the non-terminated groups of signals, an average power is set at a preceding network element.

In D1, the preemphasis is set in the preceding network element (see OTT.TX in figure 1) in such a way that the average power of the channels to be transmitted is optimized in terms of signal-to-noise ratio (SNR) in the receiver. In the Add/Drop Mux (see OADM), the preemphasis of the add signal is adapted to the desired average power of the multiplex signal (see page 2, paragraphs 11-12 in D1).

The claimed option of setting the channel-specific power of future drop signals at the preceding network element in order to meet relative SNR requirements is not disclosed in D1 and cannot be regarded as obvious to a person skilled in the art.

Claim 1 is therefore novel and inventive (PCT Article 33(2) and (3)).

5. PCT Article 34(2) (b) :

Claim 1 is supported by the originally submitted claims 1 and 4 and figure 3 in combination with page 11, line 22 ff. of the description.